

Leica iCON grade

Intelligent grading
solutions



leica-geosystems.com



- when it has to be **right**

Leica
Geosystems

Leica iCON grade – Premium machine control solutions for dozers & graders

With flexibility, upgradeability, and sustainability, iCON grade solutions can elevate grading operations and streamline your project workflows to new heights.

From simple cross-slope control to advanced total station or GNSS guidance, the 2D and 3D solutions are designed to meet the requirements of any customer or project. The 3D system is equipped with a built-in 2D system to suit different use cases on the construction site.

The quality-assured Leica MC1 3D machine control software features a user-friendly interface that displays all relevant information directly on the run screen for effortless navigation and operation, providing you with absolute precision on site.

Dramatically increase machine utilisation and productivity while optimising material usage on earthmoving or fine-grading projects, resulting in a more sustainable process that reduces project costs and environmental impact.

Experience superior reliability with our top-tier support. Leica Geosystems offers remote assistance to address your queries at any time, ensuring smooth operation of your fleet on the construction site.

Dozer solution



The 2D and 3D dozer solutions from Leica Geosystems are unparalleled high-quality machine control which allows for the utmost accuracy in heavy construction.

- Supports all types of dozers
- Increased operational automation and field of view for the operator
- Minimise machine downtime and increase operator efficiency
- Quick and easy to switch from one configuration to another

Grader solutions



Leica Geosystems' 2D and 3D grader systems grants you more control and opportunities on-site, by delivering the ultimate machine control accuracy.

- High reliability ensuring consistent quality results
- Configurations that fits all use cases
- Unmatched accuracy, decreasing grader operation time and fuel
- Correct blade calculation no matter the machines' position

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Leica iCON 3D dozer – transform your dozer with intelligent 3D control

Open new dimensions in earthmoving with elite machine control for your dozer. The Leica iCON 3D dozer solution empowers you with advanced technology to automate on-site grading. Operated by Leica MC1 software and with the Leica MCP80 control panel in the dozer cab, the system provides the operator with valuable features that unlock broader operational opportunities, enhancing the efficiency of all construction projects. Choose from various configurations, including a dual GNSS or TPS solution, for even higher levels of accuracy when required.

DUAL GNSS SOLUTION

Experience a premium 3D dozer system with the dual GNSS antenna solution, offering maximum speed, precision, and flexibility.

Benefit from precise calculations of the machine's heading, blade tilt, and angle. Allowing you to move material accurately from pass to pass, minimising rework, ensuring high-quality results, and keeping your project on track.

Leica MC1 delivers a live digital representation of your progress and the logged surface model on the run screen, dynamically updated through tool point interaction.



SINGLE TPS SOLUTION

Enjoy powerful features and precise guidance with the Leica MC1 and the Leica MCP80 panel with our single TPS configuration.

This setup streamlines fine grading operations while still delivering the peak accuracy you need to maintain high productivity on the construction site.

Work independently anywhere within the project design, when guided by a total station for smooth operations and rapid quality results.

GET THE JOB DONE RIGHT THE FIRST TIME

Switch from one configuration to another based on the job. Achieve the accuracy you need, no matter where you are working and get the job done right every time.



KEY BENEFITS

- The 3D system comes with a built-in 2D mode
- User definable views on Leica MC1 such as Plan View and Cut & Fill View
- Live heat map with 3D visualisation of your target or model with MC1 Surface logging
- Auto/manual info directly on the run screen
- Auto data and job progress logging with Leica ConX
- Easy set-up of on-cab, on-blade, TPS and GNSS configurations



Leica iCON 2D dozer – streamlined precision for all site challenges

Boost operational capabilities with the 2D dozer solution from Leica Geosystems. Offering automatic control of both slope and elevation, the system allows you to work independently of slope direction with dual masts and laser sensors. The CoPilot configuration empowers operators of all skill levels to achieve grading to specification with automated adjustments for critical parameters, ensuring smooth and wave-free passes. Both solutions are designed to simplify dozer tasks with increased automation and can be upgraded to a 3D solution, reusing existing 2D hardware for enhanced versatility and efficiency.

SCALABLE CONFIGURATION AND AUTOMATED SLOPE & HEIGHT CONTROL

It is efficient yet uncomplicated grading with the Leica 2D dozer solution. Designed for operations anywhere on-site, whether or not you have a GNSS connection, the system can be operated using the universal Leica MCP80 control panel as well as the Leica MCP70 and MCP50 touchscreen panels.

Gain automatic control of both the slope and elevation of your dozer, ensuring simplified operational procedures and high productivity on-site. When using two masts and laser sensors, you can operate independently, regardless of the slope direction.

In combination with the Leica MCP80, the 2D solution can be used with a wide range of sensors and enables an easy upgrade to a 3D solution by reusing the 2D sensors and components. This ultimately makes the Leica 2D dozer solution a sustainable and future-proof machine control investment.



TRACK YOUR BLADE WITH THE COPILOT SYSTEM

No need for additional passes and rework: The CoPilot system automatically adjusts the dozer blade positions, enabling operators to grade with ease.

Enhancing operator efficiency: By providing automatic blade control for both forward slope and cross slope, the system improves efficiency. This includes ensuring that slope targets are maintained during spreading operations.

Simplified logging process and reduced surveying: With CoPilot and the 3D on-cab solution, operators can access advanced functionalities to document progress and work outside of a model in Leica MC1. This makes it quicker and easier to spread material and log progress, with minimal need for surveying.

KEY BENEFITS

- Ready for operations from the get-go with no need of a surveyor, engineer and/or a model
- Automatic control of slope and elevation
- Dedicated grade and slope adjustment keys
- Supports automatic and manual control
- Visual explanatory graphics on the machine control run-screen that shows the blade's actual position
- Personalised operator settings and interface in Leica MC1
- Eliminates washboard surfaces to ensure correct grades and smooth surfaces with high accuracy
- The CoPilot system allows you to operate without the need of a rotating laser, total station, or GNSS hardware
- Less rework, wear and tear, and training effort




On-Cab configuration – for all dozers on the construction site

No matter what type of dozer you own, the six-way blade dozer configuration can significantly enhance your operations. The Leica dual GNSS on-cab solution is built with a standardised sensor chain hardware setup that accurately measures all dozer movements. This setup offers exceptional flexibility regarding where and how the GNSS antennas can be installed on your dozer. You are not limited to how your Leica GNSS antennas are installed on the dozer's roof.

The major advantage with this setup, is the elimination of external masts and cables, which improves operator visibility, enhances personnel safety, and reduces equipment wear and tear. With full-range movement control, you can tackle a broader range of applications and improve your performance with six-way blade dozer on-cab support, Leica MC1 software and Leica Geosystems' revolutionary positioning sensor technology.

KEY PERFORMANCE BENEFITS

- More integrated setup to reduce the risk of damaging your equipment
- Higher operational and team productivity with lower time-consuming repairs and costs
- Increased field of view for the operator for improved safety and precision
- High versatility – freedom to move your dozer blade as intended by the machine manufacturer



■ SIX-WAY BLADE SUPPORT

■ POWER PITCH SUPPORT



NO MATTER THE DOZER, WE GOT YOU COVERED
- 3D DOZER CONTROL WHEN IT HAS TO BE RIGHT

■ PUSH BLADE SUPPORT



Intelligent 3D & 2D grader solutions – maximum accuracy in every terrain

Enhance your efficiency and speed up your execution in motor grader operations with Leica iCON grade solutions. Utilise the 3D grader solution for absolute control, giving you a minimum 4 mm accuracy for high-quality end results you can be proud of. Enabled by the excellent Leica MC1 user interface, the solution grants you supreme opportunities on-site. Our 3D solution is also equipped with a built-in 2D system.

The upgradeable 2D grader solution, is a simple and reliable entry-level system, granting the operator ultra-accurate data. Each motor grader solution provides automated functions for any application, from ditch cutting to side slope grading, facilitating faster operations and, ultimately, quicker finished projects.

3D with single/dual GNSS or TPS

The 3D solution allows operators to use their machines' true potential for a broad range of applications by moving materials any way they want. This is the most beneficial grader solution for all operators no matter the level of experience who wish to achieve ultimate accuracy on the construction site.

Fulfil any customer needs with optimised opportunities. Our 3D grader system offers multiple configurations, enabling operators to achieve any requirements. The single or dual antenna configuration ensures the correct calculation of blade position regardless of machine position. Use the TPS configuration to obtain even tighter accuracy. With Leica MC1 software, the operator can personalise and modify the run screen and widgets to fit their preference.



2D auto slope and elevation

The 2D solution offers a user-friendly system with easy scalable options. Begin your iCON grade journey with a height control solution using laser receivers or an ultrasonic tracer.

Work independently of slope direction and get to the grade faster than before using two masts and laser sensors. The trisonic sensor technology follows a curb or a stringline and integrates with the hydraulic control for automatic side shift of the blade.

You can swiftly upgrade your 2D grader machine control system to a 3D solution, when more advanced features and widgets are required in your job.

The 2D system can be operated on both the Leica MCP50 and MCP70 machine control panels, and additionally on the Leica MCP80, which allows for you to easily upgrade to a complete Leica MC1 software 3D solution, just by incorporating a Leica iCON robotic station.



KEY BENEFITS 3D

- For the ultimate accuracy for all grading operations
- Equipped with a built-in 2D system
- The perfect solution for fine trimming
- Auto or Manual information directly on the Leica MC1 run-screen
- User definable views (e.g., Plan View and Cut & Fill View)
- Visible display screen, even in sunlight
- Expand your system simply by adding components
- Automatic blade control, optimising operator concentration and safety

KEY BENEFITS 2D

- Scalable solution allowing for swift upgrade to a 3D grader solution
- Use the same panel on your 2D dozers and graders, for equipment flexibility
- Agile and easy set-up with single or dual laser receiver
- Automatic control of slope and elevation
- Short learning curve thanks to intuitive software
- Automatic side shift from the trisonic sensor



Built for all your operations – take control with Leica MC1

With our high-quality machine control solution for dozers, you can tackle any task, from small road jobs and creation of parking lots, to large industrial sites or highway projects. Our solutions give the operator proficiency with little training and an easy-to-use, yet powerful, interface. Core components can easily be dismantled and reused in other machine control configurations. With our machine control systems for dozers and graders, you get a reliable system that you can count on to perform quality work you will be proud of.



Leica MC1 3D machine control system on Leica MCP80

Suited for your demands – Scalability with MCP80 and MC1

The Leica MCP80 control panel, combined with Leica MC1 software, provides a smart and future-proof investment solution for your machine control needs for any heavy construction project.

Begin with our cost-effective 2D dozer or grader solution to instantly enhance productivity and precision on your projects. As your business expands, seamlessly upgrade to full 3D capabilities and advanced features within the Leica MC1 software, without the need to replace your existing hardware investment. Providing you with a premium solution for the ultimate accuracy on-site.



2D machine control system on Leica MCP80

SWITCH FROM ONE TO THE OTHER WITHOUT LOSING PRODUCTIVITY

The reliable Leica iCON grade solutions allow you to switch between the 2D and 3D machine control systems and operate interchangeability while on-site.



ONE FOR ALL

Digitalise and empower your construction site and workflow with Leica MC1, the one-for-all 3D machine control software and a single hardware platform. Effortlessly switch from one machine to another and create complex designs through simplified workflows and reduced downtime.



EASY TO USE

Simple, clean and intuitive user interface with interactive user design personalised and customised to your needs: That is the Leica MC1 software. The assistive technology with wizards and help functions help you drive the dozer or grader and get more work done with high quality and less rework.



ROBUST HARDWARE

With a robust design, our Leica MCP80 panel and docking station Leica MDS series are prepared for the harshest environments, truly resilient for the heavy construction industry. Interchangeable between multiple heavy construction machines, including your grading machines.

Leica ConX – digitise your construction process in real time



A powerful cloud solution

Use Leica ConX to effortlessly share project data with all relevant stakeholders

All manually or automatically measured points from machines or field surveyors can be collected to create maps that allow you to view the actual, live working situation. Data sharing and validation, along with model transfers, can be much faster and easier for every member of the project with ConX.

Seamless data sharing

Leica ConX supports a variety of software from the Leica Geosystems portfolio. This includes Leica iCON site, Leica Infinity, Leica Captivate, Leica iCON office and Leica MC1.

The cloud-based collaboration platform establishes uncomplicated and smooth workflows both on the job site and in the office to maintain high productivity across the project.

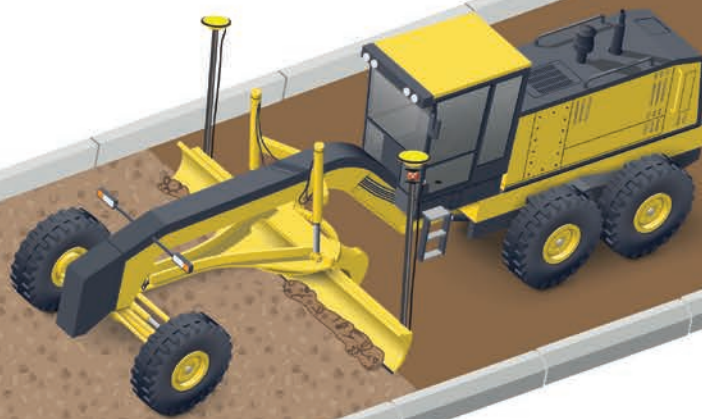
Key Benefits

- **Remote communication:** Minimise operator downtime with fast, real-time remote communication between the office and machine for troubleshooting, on-the-fly training and setup, eliminating travel costs and delays. ConX ensures that no external devices are required when contact and quick support are requested among project personnel, delivering a cost-effective solution for your project management needs.
- **Transparency:** Visualise and validate data used and generated on-site in 2D, localised on interactive maps, to collaborate and communicate with your team. Assign tasks, share updates, and make corrections to reference model data to ensure transparency and quick responses to design updates. Direct communication in ConX minimises unnecessary time spent on messages and ensures everyone is quickly informed of changes and announcements.

Leica iCON grade – reliable and high-precision solutions in any environment

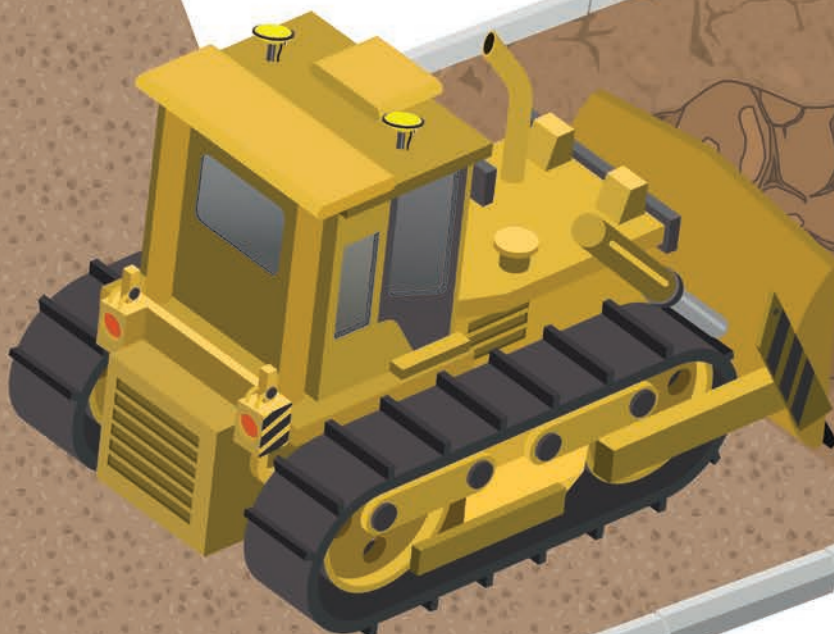
A CONFIGURATION FOR YOUR NEED

The Leica iCON grade solutions offer a wide range of configurations, each designed to meet every customer's requirements and suit diverse use cases on the construction site.



PROVIDING EXCEPTIONAL LEVELS OF FLEXIBILITY & USER CONVENIENCE

- System is up and running in no time
- Rapid interchange of control panels between machines, giving you extra flexibility on site
- Contact and cable-free connection to the control panel
- Versatile system – switch from a 3D machine control system to a TPS solution on-the-fly
- You can quickly upgrade from a 2D system to 3D GNSS or TPS configurations
- The on-cab configuration improves the overall performance efficiency while minimising hardware damage



Leica Geosystems – when it has to be right

With more than 200 years of history, Leica Geosystems, part of Hexagon, is the trusted supplier of premium sensors, software and services. Delivering value every day to professionals in surveying, construction, infrastructure, mining, mapping and other geospatial content-dependent industries, Leica Geosystems leads the industry with innovative solutions to empower our autonomous future.

Hexagon (Nasdaq Stockholm: HEXA B) has approximately 24,000 employees in 50 countries and net sales of approximately 5.2bn EUR. Learn more at hexagon.com and follow us @HexagonAB.



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